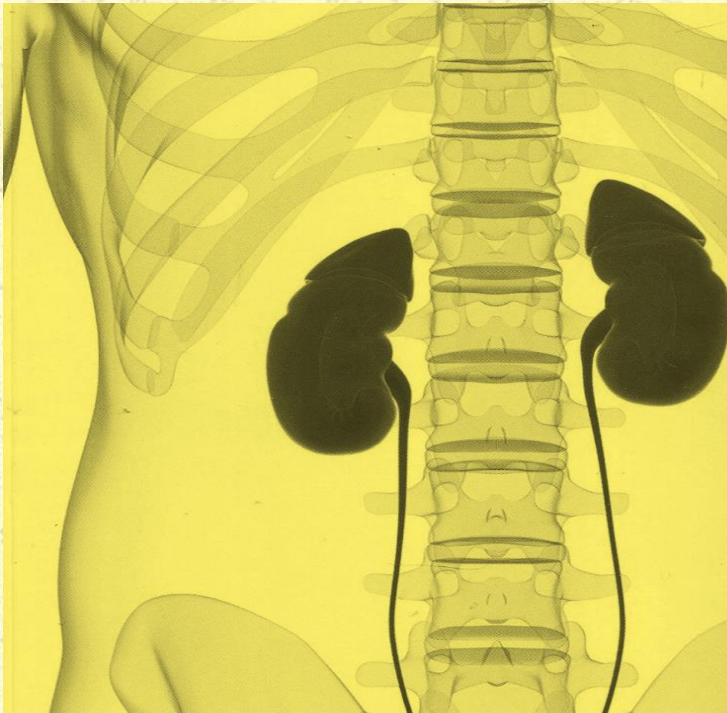


MCQs from



Urology at a Glance

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Contents

- Chapter 1** taking a urological history
- Chapter 2** Male genital examination
- Chapter 3** Female genital examination
- Chapter 4** Urological investigations
- Chapter 5** the patient with abdominal pain
- Chapter 6** Urolithiasis
- Chapter 7** Renal failure
- Chapter 8** Lower urinary tract symptoms in male and female patients
- Chapter 9** Urinary Incontinence
- Chapter 10** Neuropathic bladder
- Chapter 11** Urinary tract infections
- Chapter 12** Scrotal swelling and pain
- Chapter 13** Male infertility
- Chapter 14** Erectile dysfunction
- Chapter 15** Urological malignancies
- Chapter 16** Hematuria
- Chapter 17** Common urological conditions in childhood
- Chapter 18** Urinary tract trauma including spinal cord injury
- Chapter 19** Urological procedures and equipment



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Multiple Choice: Chapter 1 taking a urological history

Question 1. Which of the following statements is false?

- A Female per vaginal examination can be done in the supine position
- B Rectal examination is done in the left lateral position
- C a Sim's speculum is used to examine women when in the supine position
- D Male doctors should examine female patients with a chaperone present
- E Examination starts by inspection

The correct answer is C.

Question 2. Which of the following statements is false?

- A The testes in men should be the same size
- B It is best to examine a man's genitalia in a warm room
- C The normal prostate is the size of a walnut
- D A hydrocele feels like a bag of worms
- E A hydrocele transilluminates

The correct answer is D.

Question 3. In the adult, a normal bladder:

- A Cannot be palpated or percussed until there is a urine volume of at least 150 mL
- B Cannot be palpated or percussed until there is a urine volume of at least 500 mL
- C When evaluated for bladder distention, palpation is superior to percussion
- D Must not be assessed with bimanual examination under anaesth. If there is a diagnosis of bladder ca.
- E Can hold 2 liters of fluid

The correct answer is A. When evaluated for bladder distention, percussion is superior to palpation. Bimanual examination under anaesthesia is essential if there is a diagnosis of bladder cancer in order to assess tumor extension and mobility.

Multiple Choice: Chapter 2 Male genital examination

Question 1. What is the most important risk of exposure to ionizing radiation?

- A Induction of malignancy
- B Alopecia
- C Cataracts
- D Diarrhea
- E Skin irritation

The correct answer is A. Although all of the other answers given are deterministic results of radiation exposure, it is the induction of malignancy that is the greatest potential risk to patients and radiology personnel.

Question 2. Which of the following patient categories is NOT at greater risk of having an adverse reaction to contrast media?

- A Patients with asthma
- B Diabetic patients on metformin
- C Patients with chronic kidney disease
- D Pregnant women
- E Patients with inflammatory bowel disease

The correct answer is E. Different imaging modalities with contrast media are used to investigate inflammatory bowel disease

Question 3. A patient presents with a history suggestive of renal colic. What is the best imaging investigation?

- A Renal ultrasound
- B IVU
- C MRI
- D CT kidney–ureter–bladder (CTKUB)
- E CT urogram

The correct answer is D. CTKUB is a relatively quick test, does not need a radiologist and provides more accurate information than US or IVU with diagnosis of other non-uological problems. It is usually preceded by a plain KUB X-ray. CT urogram carries high dose of radiation, requires administration of contrast and preparation of patients, mainly used for more detailed investigations such as cancer.

Multiple Choice: Chapter 3 Female genital examination

Question 1. The right kidney in a normal patient:

- A May be palpable in children and thin adults
- B Is difficult to palpate
- C Is at higher risk to sustain renal injury
- D May suggest, although non-specific, renal artery stenosis
- E Is diagnostic for renal artery stenosis

The correct answer is A.

Question 2. The paediatric kidneys:

- A May be palpable in children and thin adults
- B Are difficult to palpate
- C Are at higher risk to sustain renal injury
- D May suggest, although non-specific, renal artery stenosis
- E Are diagnostic for renal artery stenosis

The correct answer is C. The paediatric kidneys are at higher risk to sustain renal injury. They are less well protected, more mobile and relatively larger than adult kidneys. A congenital anomaly is also more likely in such patients.

Question 3. Auscultation of a bruit in the epigastrium or upper abdomen:

- A May be palpable in children and thin adults
- B Is difficult to palpate

- C Is at higher risk to sustain renal injury
- D May suggest, although non-specific, renal artery stenosis
- E Is diagnostic for renal artery stenosis

The correct answer is D. It may suggest, although non-specific, renal artery stenosis in the appropriate clinical setting. It is particularly indicative when the bruit is continuous (systolic–diastolic). A bruit can vary in intensity with fluctuation of the systemic blood pressure, or disappear if renal artery stenosis progresses to near or total occlusion. An abdominal bruit can also occur in association with a renal artery aneurysm or arteriovenous malformation.

Question 4. The left kidney in a normal patient:

- A May be palpable in children and thin adults
- B Is difficult to palpate
- C Is at higher risk to sustain renal injury
- D May suggest, although non-specific, renal artery stenosis
- E Is diagnostic for renal artery stenosis

The correct answer is B. It is difficult to palpate, as it lies higher within the retroperitoneum than the right kidney. Examination is best performed bimanually, with one hand behind the patient in the costovertebral angle and the other anteriorly just below the costal margin. With inspiration, the kidney can be felt as it moves downward.

Multiple Choice: Chapter 4 Urological investigations

Question 1. What is the most important risk of exposure to ionising radiation?

- A Induction of malignancy
- B Alopecia
- C Cataracts
- D Diarrhea
- E Skin irritation

The correct answer is A. Although all of the other options are deterministic results of radiation exposure, it is the induction of malignancy that is the greatest potential risk to patients and radiology personnel.

Question 2. Which of the following patient categories is NOT at greater risk of having an adverse reaction to contrast media?

- A Patients with asthma
- B Diabetic patients on metformin
- C Patients with chronic kidney disease
- D Pregnant women
- E Patients with inflammatory bowel disease

The correct answer is E. Different types of imaging modalities with contrast media are used to investigate inflammatory bowel disease.

Question 2. Which of the following patient categories is NOT at greater risk of having an adverse reaction to contrast media?

- A Patients with asthma
- B Diabetic patients on metformin
- C Patients with chronic kidney disease
- D Pregnant women
- E Patients with inflammatory bowel disease

The correct answer is E. Different types of imaging modalities with contrast media are used to investigate inflammatory bowel disease.

Question 3. A patient presents with a history suggestive of renal colic. What is the best imaging test?

- A Renal ultrasound
- B KUB
- C MRI
- D CTKUB
- E CT urogram

The correct answer is D. First line of investigation is CTKUB. It is a relatively quick test, does not need a radiologist and provides more accurate information than ultrasound or intravenous urogram (IVU) with diagnosis of other non-urological problems. CT urogram carries high dose of radiation, requires administration of contrast and preparation of patients and is mainly used for more detailed investigations.

Multiple Choice: Chapter 5 the patient with abdominal pain

Question 1. What causes the pain associated with a stone in the ureter?

- A Urinary extravasation from a ruptured calyceal fornix
- B Excessive ureteric peristalsis in response to the obstructing stone
- C Obstruction of urine flow with distension of the renal capsule
- D Irritation of the ureteric mucosa by the stone
- E Irritation of the intramural ureter

The correct answer is C. Pain is usually caused by acute distension of the renal capsule, usually from inflammation or obstruction.

Question 2. What is the most common cause of abdominal pain associated with visible haematuria?

- A Benign prostatic enlargement
- B Urinary tract injury
- C Urinary tract infection
- D Urinary tract calculi
- E Bladder cancer

The correct answer is D. Benign prostatic enlargement causes voiding lower urinary tract symptoms such as hesitancy, poor urine flow, straining and dribbling rather than pain. The other options can cause abdominal pain associated with haematuria but are not as common a presentation as urinary tract calculi.

Question 3. What findings can be obtained from pelvic bimanual examination that cannot be obtained from imaging tests?

- A Involvement of perivesical fat by bladder cancer
- B Bladder stones
- C Bladder mass
- D Adnexal mass in female
- E Mobility/fixation of pelvic mass

The correct answer is E. This finding cannot be gained by any radiological techniques such as CT, ultrasound and MRI which show static images.

Multiple Choice: Chapter 6 Urolithiasis

Question 1. A 75-year-old woman being investigated for recurrent urinary tract infections (Proteus on culture) has a staghorn calculus on CT. What is the most likely stone composition?

- A Cysteine
- B Uric acid
- C Struvite
- D Calcium oxalate
- E Hydrogen

The correct answer is C. These stones are also known as infection stones or triple phosphate stones. They are made up of magnesium ammonium phosphate, often in association with calcium apatite. A high urine pH (>7.2) and the presence of ammonia from the action of a urea-splitting bacteria is required. Urea is broken down by a urease enzyme produced by the bacteria to form ammonia and CO₂ resulting in the alkaline environment required for the precipitation of magnesium ammonium phosphate. Many bacteria possess the urease enzyme, including *Proteus mirabilis*, *Klebsiella pneumoniae*, *Pseudomonas* species and *Staphylococcus aureus*.

Question 2. A 32-year-old man has a renal stone 3 years following laparotomy and ileal resection for Crohn's disease. What metabolic factor most likely accounts for this?

- A Hypocitraturia
- B Hyperoxaluria
- C Hyperuricosuria
- D Hypercalciuria
- E Hypocalciuria

The correct answer is B. Hyperoxaluria is caused by dietary excess, enteric factors (malabsorption of calcium in the gut in situations of bowel resection or inflammatory bowel disease causes excess oxalate absorption from the bowel) and primary hyperoxaluria (due to autosomal recessive abnormality of glyoxalate metabolism causing an excess of oxalate production).

Question 3. A 68-year-old man presents with recurrent urinary tract infection (UTI). He has a history of recurrent renal stones and has three previous percutaneous nephrolithotomies in the right kidney. Current evaluation confirms a recurrent 3 cm stone in the right renal pelvis. An isotope study (DMSA) performed 3 months after treatment of his UTI shows 5% function in the right kidney. What is the best treatment strategy for the right renal stone?

- A Extracorporeal shock wave lithotripsy (ESWL)
- B Flexible ureterorenoscopy (FURS) with stone fragmentation
- C Percutaneous nephrolithotomy (PCNL)
- D Nephrectomy
- E Conservative treatment

The correct answer is D. The right kidney is poorly functioning and has significant stone burden. EWSL and FURS would not be recommended for a stone of this size. In view of the poor function, PCNL would not be recommended.

Multiple Choice: Chapter 7 Renal failure

Question 1. Which of the following drugs does NOT cause renal failure?

- A Gentamicin
- B Lithium

- C Tamsulosin
- D Amphotericin B
- E ACE inhibitor

The correct answer is C. All the others are implicated in renal failure. Tamsulosin, an alpha-blocker, is not and is used in outflow obstruction.

Question 2. Which of the following pathologies can cause prerenal failure?

- A Advanced prostate cancer
- B Contrast-induced nephropathy
- C Diabetic nephropathy
- D Hypovolaemic shock due to haemorrhage
- E Bladder cancer

The correct answer is D. Prerenal failure is in effect caused by inadequate perfusion. Prostate cancer and bladder cancer causing either trigonal encroachment and pelvic floor disruption and ureteric obstruction is a cause of post renal 'renal' failure. Contrast-related nephropathy and diabetic nephropathy cause intrinsic or 'renal' failure.

Question 3. Which of the following radiological investigations are safe to use in renal patients with renal failure?

- A Ultrasonography
- B Intravenous urography
- C CT urogram
- D Gadolinium-enhanced MRI
- E All of the above

The correct answer is A. Although user dependent, renal ultrasound is fast, radiation and contrast free and therefore will not cause renal failure. Intravenous urography and CT urography should be avoided as both employ contrast. Gadolinium-enhanced MRI, although radiation free, can cause nephrogenic systemic fibrosis.

Question 4. Which of the following causes intrinsic renal failure?

- A Cervical carcinoma
- B Multiple myeloma
- C Cardiac valvular disease
- D Pancreatitis
- E Prostate cancer

The correct answer is B. Cervical carcinoma and prostate cancer are causes of post renal failure. Cardiac valvular disease and pancreatitis both cause prerenal 'renal failure' due to inadequate renal perfusion and third space loss.

Multiple Choice: Chapter 8 Lower urinary tract symptoms in male and female patients

Question 1. Strong predictors of acute urinary retention (AUR) include:

- A A raised urea
- B A raised International Prostate Symptom Score (IPSS)
- C A 20 g prostate
- D Qmax >15 mL/s
- E Age <50 years

The correct answer is B. The following are strong predictors of AUR: a high IPSS score, large prostate volumes, a low Qmax, advancing age and previous episodes of retention.

Question 2. A 70-year-old man presents with painless retention and wetting at night, with a residual of 2 L. You diagnose high pressure chronic retention.

- A There is no treatment for him
- B His renal function will be normal
- C Once the catheter has been passed he is unlikely to produce a diuresis

D He may have bilateral hydronephrosis on ultrasound

E He will have normal renal function tests

The correct answer is D. These patients commonly have renal dysfunction, large residual volumes and can produce a diuresis. They may also have bilateral hydronephrosis on renal tract ultrasound scanning. The definitive treatment is transurethral resection of the prostate (TURP), clean intermittent self-catheterisation (CISC) or long-term catheter (LTC).

Question 3. Which of the following is used in the medical management of male lower urinary tract symptoms (LUTS)?

A Beta-blockers

B Calcium channel blockers

C 5 Alpha-reductase inhibitors

D Alpha-agonists

E ACE inhibitors

The correct answer is C. The following are used in the medical management of male LUTS: alpha adrenoreceptor blockers (alpha-blockers), 5 alpha-reductase inhibitors (5ARIs), anticholinergic receptor blockers, beta-3 agonists and phosphodiesterase type 5 inhibitors (PDE5 inhibitors).

Question 4. Which of the following is an indication for transurethral resection of the prostate (TURP)?

A High pressure chronic retention

B First-line treatment for poor flow and incomplete emptying

C Recurrent blocked catheters

D Renal stones

E Urgency and frequency

The correct answer is A. The following are indications for TURP: recurrent urinary tract infections, recurrent or refractory bouts of urinary retention, bladder stones, hematuria that does not settle with 5ARIs, elevated creatinine due to bladder outlet obstruction (BOO) and worsening symptoms despite maximum medical therapy.

Question 5. In the management of female with overactive bladder (OAB) syndrome which of the following are possible management options?

- A Anticholinergic medication
- B Clam ileocystoplasty
- C Intravesical Botox A therapy
- D Mirabegron
- E All of the above

The correct answer is E. All of the options are possible treatment options for OAB, including sacral neuromodulation and an ileal conduit urinary diversion in severe cases.

Multiple Choice: Chapter 9 Urinary Incontinence

Question 1. What would be the best treatment option for a 48-year-old woman with no relevant past medical history who presents with symptoms of stress urinary incontinence?

- A Anticholinergics
- B Autologous fascial sling
- C Colposuspension
- D Pelvic floor muscle training
- E Tension-free vaginal tape (TVT)

The correct answer is D. Pelvic floor muscle training supervised by a pelvic floor physiotherapist has been shown to significantly improve stress incontinence symptoms. Patients should perform at least eight contractions three times a day for 3 months. If symptoms persist despite this, then surgical options should be considered.

Question 2. What would be the best treatment option for a 32-year-old woman with multiple sclerosis who has recently developed symptoms of urinary frequency and urgency with occasional urgency incontinence?

- A Anticholinergics
- B Beta-3 agonists
- C Ileal conduit urinary diversion

D Intravesical botulinum toxin A

E Sacral neuromodulation

The correct answer is A. Overactive bladder symptoms are common in patients with a neuropathic bladder and if the patient does not have high post-void residual volumes then anticholinergic agents should be started as a first-line if the patient has no contraindications.

Question 3. What would be the best treatment option for a 61-year-old woman with severe overactive bladder syndrome (OAB) symptoms who has failed treatment with pharmacological agents? She attempted to learn self-catheterise but was unable to do this.

A Artificial urinary sphincter

B Ileal conduit urinary diversion

C Intravesical botulinum toxin A

D Augmentation cystoplasty

E Sacral neuromodulation

The correct answer is E. Second-line options for medically refractory OAB include intravesical botulinum toxin A or sacral neuromodulation. However, there is a risk of inability to void following botulinum toxin A therapy and so patients should be able to perform self-catheterisation prior to receiving this treatment.

Question 4. What would be the best treatment option for a 55-year-old mother of three children who has distressing symptoms of stress urinary incontinence despite performing regular pelvic floor exercises for the past 3 months? She wants an operation with a short hospitalisation and quick recovery as she has to look after her young children.

A Artificial urinary sphincter

B Autologous fascial sling

C Colposuspension

D Urethral bulking agent

E Transvaginal mid-urethral synthetic sling

The correct answer is E. Surgical options for women with stress incontinence who have failed pelvic floor exercises are synthetic mid-urethral tapes, colposuspension or autologous fascial slings. The synthetic mid-urethral tapes, such as TVT, are the least invasive with shortest hospitalisation times and excellent long-term success rates.

Question 5. What would be the best treatment option for a 63-year-old man who developed severe stress urinary incontinence following a radical prostatectomy for prostate cancer 3 years previously followed by radiotherapy. He has been performing pelvic floor exercises since his operation with no significant benefit and continues to wear seven heavy pads a day.

- A Duloxetine
- B Artificial urinary sphincter
- C Ileal conduit urinary diversion
- D Male sling
- E Sacral neuromodulation

The correct answer is B. The surgical management of post-prostatectomy incontinence involves the male sling (which is better suited to mild to moderate incontinence) or the artificial urinary sphincter (which has better success rates for more severe degrees of incontinence).

Multiple Choice: Chapter 10 Neuropathic bladder

Question 1. A 70-year-old man with no past medical history suffers a cerebrovascular accident (CVA). He experiences symptoms of hesitancy, poor flow, incomplete bladder emptying, urgency and frequency. What would be the ideal next step?

- A Intravesical Botox injection
- B Urodynamic evaluation
- C Green light laser vaporization of prostate
- D Transurethral resection of prostate
- E Beta-3 agonist

The correct answer is B. Overall, the patient describes symptoms of bladder outflow obstruction which would indicate most likely prostatic obstruction. However, before embarking on a definitive procedure one must eliminate any evidence of detrusor overactivity that may be causing his symptoms, as if this is present any outlet surgery can worsen the patient's symptoms.

Question 2. What is the most likely urological dysfunction following a CVA?

- A Detrusor–sphincter dysynergia (DSD)
- B Incomplete bladder emptying
- C Autonomic dysreflexia
- D Detrusor overactivity
- E Loss of bladder sensation

The correct answer is D. Detrusor overactivity is the most common long-term urological problem in patients following a CVA.

Question 3. During evaluation a patient is found to have detrusor–sphincter dysynergia (DSD). This finding suggests that the neurological lesion lies:

- A Between the frontal lobe and the sacral spinal cord
- B Within the dopamine receptors of the substantia nigra
- C Along the hypogastric nerve
- D Along the pudendal and pelvic nerves
- E Between the pons and sacral spinal cord

The correct answer is E. DSD is a sign of a supra-sacral lesion, which is caused by a lesion between the pons and L5 spinal segment. This leads to bladder overactivity and sphincter spasticity, which can cause abnormally high bladder pressures.

Question 4. Which of these features least describes the symptoms and signs of autonomic dysreflexia?

- A Hypertension
- B Bradycardia
- C Profuse sweating (above the level of injury)
- D Flushed appearance (above the level of injury)
- E A lesion at the level of T4

The correct answer is A. In autonomic dysreflexia there is sympathetic overactivity. This leads to hypertension, pounding headache, bradycardia, sweating and flushing, and can occur in supra-sacral lesions above the level of T6.

Question 5. Which of the following is NOT a complication for long-term catheterization?

- A Risk of cancer
- B Recurrent urinary tract infections
- C Encrustation and stones
- D Blockages requiring regular changes
- E Increased bladder capacity

The correct answer is E. All of these are complications of long-term catheterisation except E. Long-term catheterisation is more likely to decrease bladder capacity especially if the catheter is attached to a bag and on free drainage. With the use of a valve/tap at the end of the catheter or the use of intermittent self-catheterisation, the lower urinary tract behaves more physiologically and bladder capacity can be maintained.

Multiple Choice: Chapter 11 Urinary tract infections

Question 1. Which of the following UTIs is a common risk factor for squamous cell carcinoma of the bladder?

- A Staphylococcus aureus
- B Schistosomiasis
- C Escherichia coli
- D Proteus mirabilis
- E All of the above

The correct answer is B. Schistosomiasis accounts for the overwhelming majority of cases of squamous cell carcinoma of the bladder worldwide.

Question 2. Which of the following is the most common cause of UTIs?

- A Klebsiella

- B *Proteus mirabilis*
- C *Escherichia coli*
- D *Staphylococcus aureus*
- E None of the above

The correct answer is C. *E. coli* accounts for 85% of all community acquired infections and 50% of those acquired in hospital. *Klebsiella* and *Proteus* are also common causes of UTIs. Gram-positive organisms such as *S. aureus* are much more rarely found in the urinary tract.

Question 3. Which of the following urinary pathogenic bacteria is Gram positive?

- A *Citrobacter*
- B *Enterococcus faecalis*
- C *Ureaplasma urealyticum*
- D *Escherichia coli*
- E All of the above

The correct answer is B. *Citrobacter* and *E. coli* are both Gram-negative organisms, and *Ureaplasma* is believed to be derived from a Gram-negative bacteria but does not test positive because of its lack of a cell wall.

Question 4. Which of the following factors increases the risk of infection?

- A a urinary pH of 6.0
- B *Lactobacilli* colonisation of external genitalia
- C Antegrade urinary flow in urethra
- D Spinal cord injuries
- E All of the above

The correct answer is D. Spinal cord injuries often prevent adequate emptying of the bladder or early identification of the symptoms of a UTI. Options A–C protect against infection.

Question 5. Which of the following steps is NOT required in obtaining a midstream urine (MSU)?

- A Collect the first part of the urinary stream
- B Avoid touching the inside of the sample container
- C Clean around the urethral meatus
- D Retract the foreskin
- E Label the sample bottle with the correct patient details

The correct answer is A. The first part of urination is likely to contain contaminants from the distal urethra and skin.

Question 6. Fournier's gangrene is uniquely associated with which of these signs?

- A Gas formation between tissue planes
- B Tissue necrosis
- C Abscess formation
- D Positive urine culture
- E None of the above

The correct answer is A. Tissue necrosis and abscess formation are commonly found concurrently, but are not unique to Fournier's gangrene. As with epididymo-orchitis, urine cultures are frequently negative.

Multiple Choice: Chapter 12 Scrotal swelling and pain

Question 1. A teenage boy presents with left testicular pain. Which of the following options need to be excluded first?

- A Orchitis
- B Epididymitis
- C Torsion of epididymal appendage
- D Testicular torsion
- E Testicular tumour

The correct answer is D. The age is the clue. In any adolescent or child presenting with testicular pain a torsion needs to be considered first.

Question 2. A 50-year-old man presents with dysuria, cloudy urine and a tender swollen right testis. What is the most likely diagnosis?

- A Orchitis
- B Epididymitis
- C Torsion of epididymal appendage
- D Testicular torsion
- E Testicular tumour

The correct answer is A. If the patient is febrile and showing signs of sepsis he will need admission for intravenous antibiotics. In middle-aged men with urinary tract infection and orchitis, bladder outlet obstruction needs to be excluded once their infection has settled, in an outpatient setting.

Question 3. A 22-year-old man presents with a day history of right testicular pain. On examination there is significant tenderness on the epididymis but not the testis. He has a history of unprotected intercourse and chlamydia. What is the most likely diagnosis?

- A Orchitis
- B Epididymitis
- C Torsion of epididymal appendage
- D Testicular torsion
- E Testicular tumor

The correct answer is B. The history is not always as clear and therefore careful history and examination are required to correctly diagnose epididymitis and exclude testicular torsion.

Question 4. A teenage boy presents with left testicular pain for 12 hours. The pain has gradually improved but there is an apparent swelling and a blue dot is visible under the skin on the upper pole of the testis. What is the most likely diagnosis?

- A Orchitis
- B Epididymitis

C Torsion of testicular appendage

D Testicular torsion

E Testicular tumor

The correct answer is C. In cases where the history and examination are not so clear, patients will have to undergo a scrotal exploration to exclude a testicular torsion. The torted cyst or hydatid of Morgagni (or testicular appendage) will have to be excised off the testis.

Question 5. A 28-year-old man presented with a 2 month history of a dull ache in his left testis. On examination you can feel a hard lump on the testis which is tender. Which diagnosis needs to be excluded first?

A Orchitis

B Epididymitis

C Torsion of epididymal appendage

D Testicular torsion

E Testicular tumor

The correct answer is E. All cases where a hard lump is felt on the testis and not the epididymis need to be assessed with ultrasound and discussed in a multi-disciplinary team meeting. If you are strongly suspicious of a tumor, perform routine blood tests as well as alpha-fetoprotein (AFP), lactate dehydrogenase (LDH) and human chorionic gonadotrophin (HCG) tumour markers. CT scanning of the chest, abdomen and pelvis will reveal intrabdominal lymphadenopathy or lung metastasis. Remember that metastases from testicular tumours occur in the para-aortic lymph nodes not the groin lymph nodes. All patients with a suspicious testicular tumour on examination and imaging will undergo sperm banking and urgent radical inguinal orchidectomy.

Multiple Choice: Chapter 13 Male infertility

Question 1. A 30-year-old man is referred with infertility. Examination revealed epididymal swelling bilaterally. Semen analysis showed azoospermia. What is the most likely the cause of his infertility?

A Orchitis

B Cancer

C Müllerian duct cyst

D Cryptorchidism

E Idiopathic

The correct answer is C. Müllerian duct cysts is one of the obstructive cases of infertility. The hint here is epididymal swelling caused by obstruction resulting in azoospermia.

Question 2. Varicocele is present in 10% of patients with infertility

A True

B False

False. Varicocele is present in about 40%.

Question 3. Which gland is luteinizing hormone (LH) and follicle stimulating hormone (FSH) secreted from?

A Thyroid gland

B The hypothalamus

C Pituitary gland

D Parotid gland

E None of above

The correct answer is C. The anterior pituitary gland secretes both LH and FSH.

Multiple Choice: Chapter 14 Erectile dysfunction

Question 1. Which of the following is TRUE in erectile dysfunction (ED)?

A There is no role of checking serum glucose and lipid profile in ED investigations

B PDE-5 inhibitors can be given safely with nitrate medications

C If a man experiences nocturnal penile erection, but cannot achieve erection for intercourse, he is likely to have psychogenic ED

D Afferent information travels from penile ischiocavernosus and bulbocavernosus muscles to Onuf's nucleus (S2–4)

E The dorsal penile and pudendal nerves carry the efferent fibres to the spinal cord at S2–4 level

The correct answer is C. E is incorrect as it is the afferent not the efferent fibres.

Question 2. Which of the following is TRUE in ED?

A The cavernous artery is the branch of inferior vesical artery

B Tadalafil is effective after 30 minutes after administration and its efficacy is maintained for up to 36 hours and is affected by food

C If oral therapy fails surgical implantation of a penile prosthesis is the treatment of choice

D ED is not associated with hyperprolactinaemia

E Chronic diseases are included in reversible causes of ED

The correct answer is B.

Question 3. Which of the following is TRUE about the treatment of ED?

A The PDE-5i are initiators of erection and usually do not require sexual stimulation

B Alprostadil has lower success rate up to 30% in the treatment of ED

C Fibrosis is not a complication of intracavernous injection treatment

D PDE-5i are not the first line of treatment

E Sildenafil and vardenafil have been associated with visual abnormalities

The correct answer is E.

Question 4. A 42-year-old diabetic man presents with history of curvature of his penis for 1 year and is unable to have successful intercourse with his partner. What is the most probable diagnosis?

A Diabetes

B Penile fracture

C Peyronie's disease

D Psychogenic

E Priapism

The correct answer is C.

Question 5. Which of the following is NOT a baseline investigation for ED?

A Fasting serum glucose

B Fasting lipid profile

C Serum FSH, LH

D ECG

E Serum testosterone

The correct answer is D.

Question 6. Which of the following is NOT a cause of ED?

A Tricyclic antidepressants

B Parkinson's disease

C 5-alpha reductase inhibitors

D Trimethoprim

E Radical prostatectomy

The correct answer is D.

Multiple Choice: Chapter 15 Urological malignancies

Question 1. A 64-year-old man presents with a 2-month history of painless visible haematuria, hypertension, weight loss, pyrexia and anaemia. What is the most likely diagnosis?

A Adenocarcinoma of the bladder

B Urothelial bladder cancer

C Prostate cancer

D Renal cancer

E Lower urinary tract infection

The correct answer is D. Haematuria has many causes; however, the symptoms described are those of paraneoplastic syndrome, seen in up to 30% of renal cancer cases.

Question 2. A 64-year-old woman presents with a 1 week history of visible haematuria, dysuria and bothersome lower urinary tract symptoms (LUTS). What is the most likely diagnosis?

A Adenocarcinoma of the bladder

B Urothelial bladder cancer

C Bladder stones

D Renal cancer

E Lower urinary tract

The correct answer is E. Dysuria is a classic symptom of urinary tract infections which also commonly cause LUTS. However, any episode of visible haematuria in a woman of this age warrants thorough investigation for an underlying cause, after treating the acute infection (e.g. bladder outlet obstruction) with chronic urinary retention or diabetes mellitus.

Question 3. A 71-year-old man presents with a 6-month history of visible haematuria and bothersome LUTS. He denies dysuria. He is a heavy smoker (80 year pack history). What is the most likely diagnosis?

A Adenocarcinoma of the bladder

B Urothelial bladder cancer

C Prostate cancer

D Renal cancer

E Lower urinary tract infection (cystitis)

The correct answer is B. There are many possible explanations for his symptoms. However, from this list, bladder (urothelial) cancer is the most likely cause of his symptoms. Bladder cancer must be excluded in any patient with this history. Adenocarcinoma is less common and typically results from a congenital remnant of the urachus. Benign prostatic enlargement causing bladder outlet obstruction (BOO) and incomplete bladder emptying with or without ensuing recurrent urinary tract infections is another possible explanation.

Question 4. A 79-year-old man presents with a 3-year history of voiding LUTS (poor stream, incomplete emptying, hesitancy) and a 3-month history of hip and lower back pain which is worse at night. His adjusted serum calcium is 2.9 mmol/L (reference range 2.25–2.5 mmol/L). What is the most likely diagnosis?

- A Adenocarcinoma of the bladder
- B Urothelial bladder cancer
- C Penile adenocarcinoma
- D Prostate cancer
- E Renal cancer

The correct answer is D. Metastatic prostate cancer is the most likely diagnosis in this scenario. Renal cancer can also metastasise to bone but not typically to the hip. A digital rectal examination, prostate-specific antigen (PSA) and bone scan should be performed to confirm the diagnosis of prostate cancer. However, a prostate biopsy would not routinely be required in this man. A peripheral nervous system examination is important to exclude spinal cord compression from bony metastases and a post void residual bladder scan (ward or clinic based bedside ultrasound machine) will also exclude chronic retention secondary to bladder outlet obstruction.

Question 5. A man presents with a hard, enlarging lump in his left testicle. Examination suggests possible testicular cancer. Which lymph nodes does testicular cancer spread to first?

- A External iliac
- B Inguinal
- C Para-aortic
- D Supraclavicular
- E Lung

The correct answer is C. The gonads develop in early gestation in the peritoneal cavity in both sexes. Their blood supply and lymphatic drainage thus take origin in the retroperitoneal cavity at a level just inferior to the renal hilum. This patient should have an urgent ultrasound scan (ideally the same day) and bloods for tumour markers (AFP, LDH, HCG). Inguinal lymphadenopathy with a scrotal pathology suggests a skin lesion.

Question 6. A 79-year-old man presents with a 3-month history of a slowly enlarging red lump on his glans penis. He has no voiding difficulty and is not circumcised. His foreskin is fully retractile and otherwise normal. What is the most likely diagnosis?

- A Balanitis xerotica obliterans (BXO) or lichen sclerosis
- B Penile adenocarcinoma
- C Penile melanoma
- D Penile squamous cell carcinoma
- E Zoon's balanitis

The correct answer is D. The most common cancer to affect the penis is squamous cell carcinoma. Risk factors include not being circumcised, manual labour (presumed through the chronic irritation of dirt from a labourer's hands). Sexually transmitted viral infection also pre-disposes, similarly to cervical cancer. Penile adenocarcinoma is rare. Penile melanoma is rare as it is commonly related to sun exposure and usually presents with a pigmented lesion. BXO usually presents with a phimosis and is a pre-malignant condition which usually warrants circumcision.

Multiple Choice: Chapter 16 Haematuria

Question 1. A 62-year-old woman presents to the GP with intermittent loin to groin pain and visible haematuria. She had also recently been admitted to hospital with acute pancreatitis. What is the likely cause?

- A Hyperthyroidism
- B Diverticulitis
- C Appendicitis
- D Hyperparathyroidism
- E Pyelonephritis

The correct answer is D. Excess parathyroid hormone results in increased release of calcium from the bone matrix, increased calcium reabsorption by the kidney and increased renal production of 1,25-dihydroxyvitamin D3 (calcitriol), which increases intestinal absorption of calcium. Primary hyperparathyroidism is common in postmenopausal women. Excessive renal calcium excretion causes renal calculi and hypercalcaemia can cause several symptoms including muscle weakness, polyuria, polydipsia, dehydration, hypertension, anorexia; nausea and vomiting; constipation; acute pancreatitis.

Question 2. A 22-year-old medical student has recently returned from his elective in Africa and is complaining of fever, abdominal pain and blood in the urine. What is the likely causative organism?

- A *Plasmodium falciparum*
- B *Schistosomiasis haematobium*
- C *Aedes aegypti*
- D *E. coli*
- E *Pseudomonas*

The correct answer is B. Schistosomiasis also known as bilharzia is a type of infection caused by parasites that live in fresh water, such as rivers or lakes. Parasite eggs can be released into the water from infected humans in urine or stool. These can survive in water for up to 7 days. Once the eggs hatch, the larvae that is released attaches into tissue of freshwater snails if present. It matures into cercaria and then, after 4–6 weeks, leaves the snail and if it comes into contact with human skin, burrows in and then develops into schistosomules. These are able to move around the body through the blood vessels, eventually reaching the organs of the abdomen. About 4–6 weeks after infection, the schistosome is mature, the males and females mate, and the female worm starts to lay eggs. Some of these eggs remain in organs close to the adult worms where an immune reaction occurs, some remain in the body and move through the blood to other organs, and some pass out in urine and faeces, allowing the life cycle to begin again. Direct infection from human to human does not occur. Adult worms can remain active for 5 years or more, and there may have been cases where worms have lived in a human host for up to 30 years. The female worm will continue to lay eggs throughout her lifespan. Schistosomiasis is prevalent in tropical and sub-tropical areas, especially in poor communities without access to safe drinking water and adequate sanitation. Symptoms include fever, headache, fatigue, arthralgia, abdominal pain, cystitis and haematuria. If the central nervous system is infected, seizures, urinary incontinence and peripheral neuropathy can occur. Treatment is normally with a single dose of praziquantel.

Question 3. Haematuria is a known side effect of which tuberculosis medication?

- A Ethambutol
- B Rifampicin
- C Pyrazinimide
- D Isoniazid
- E Gentamicin

The correct answer is B. Rifampicin inhibits bacterial DNA-dependent RNA synthesis by inhibiting bacterial DNA-dependent RNA polymerase. Side effects of treatments for tuberculosis can be remembered via the following: Ethambutol – Eyes are affected; optic neuritis. Rifampicin – Red/Orange Metabolites. Pyrazinimide – Hepatotoxicity,

joint pain. Isoniazid – also known as isonicotinylhydrazine (or INH) – Peripheral Neuropathy, Hepatitis, three letters INH – SLE (systemic lupus erythematosus) like symptoms.

Question 4. A 45-year-old man presents to accident and emergency with fever, chest pain, haemoptysis and haematuria. Blood test analysis revealed: urea 16 mmol/L, creatinine of 140 μ mol/L and eGFR 16 and the presence of anti-glomerular basement membrane (anti-GBM) antibodies. What is the likely diagnosis?

- A Vasculitis
- B Wegener's granulomatosis
- C Goodpasture's syndrome
- D Systemic lupus erythematosus (SLE)
- E Pyelonephritis

The correct answer is C. While the other conditions listed can cause the above symptoms, the presence of anti-GBM antibodies is diagnostic. Markers for the other conditions include raised erythrocyte sedimentation rate (ESR) in vasculitis, anti-neutrophil cytoplasmic antibodies (ANCA), C-ANCA and P-ANCA in Wegener's granulomatosis and auto-antibodies such as ANA and anti-dsDNA in SLE.

Question 5. A 77-year-old man presents with haemospermia and haematuria. He reports that his urinary flow has been worsening over the last 6 months. Examination reveals a hard irregular prostate, with prostate specific antigen (PSA) 59 ng/mL (normal PSA 5 ng/mL adjusted for age). What is the likely cause?

- A Bladder cancer
- B Prostatitis
- C Urinary colic
- D Prostate cancer
- E Urethral strictures

The correct answer is D. While the other conditions could cause haematuria, the vignette does not state the patient being a heavy smoker or exposure to aromatic amines. Prostatitis typically causes more urinary symptoms. Urinary colic would be likely to have further abdominal symptoms.

Multiple Choice: Chapter 17 Common urological conditions in childhood

Question 1. Which of the following is NOT a feature of hypospadias?

- A Ventral chordee
- B Hooded foreskin
- C Dorsally placed meatus
- D Proximal meatus

The correct answer is C. The other three options are all classically described in hypospadias. A dorsal meatus is seen in epispadias. In hypospadias the meatus will be ventral and more proximal than normal.

Question 2. Undescended testes:

- A Are most commonly bilateral
- B Are associated with a patent processus vaginalis
- C Need immediate correction
- D Should be diagnosed by ultrasound
- E Should be diagnosed by CT scan

The correct answer is B. The pathological mechanism for paediatric hernia, hydrocele and undescended testes is the associated patent processus vaginalis. This is why when performing an orchidopexy you should always look for, dissect and transfix a sac associated with the spermatic cord.

Question 3. With the foreskin:

- A Pathological phimosis is more common than physiological phimosis
- B It is always retractile at birth
- C BXO does not usually occur until after the age of 5 years
- D Removal has no role in the prevention of infection
- E Must be removed under general anaesthetic

The correct answer is C. BXO is not usually seen until after 5 years of age. It is well documented that the foreskin is adherent to the glans at birth with the majority becoming retractile by the age of 5 years. In babies, circumcision is performed under local anaesthetic.

Multiple Choice: Chapter 18 Urinary tract trauma including spinal cord injury

Question 1. Which of the following is NOT an indication for renal imaging?

- A Visible haematuria
- B Systolic blood pressure >90 mmHg since the injury and non-visible haematuria
- C Rapid deceleration injury
- D Suspected renal trauma in a child
- E Penetrating trauma

The correct answer is B. Systolic blood pressure <90 mmHg at any point since the injury in conjunction with haematuria (non-visible) is an indication for immediate renal imaging. The other indication is penetrating trauma.

Question 2. Which of the following can distinguish a penile fracture from superficial dorsal vein rupture?

- A Immediate detumescence
- B Occurrence during sexual intercourse
- C Bruising of the penis limited to Buck's fascia
- D Acute penile swelling
- E Pain

The correct answer is A. Superficial dorsal vein rupture is a rare condition which can mimic penile fracture. Both conditions present with a grossly swollen and bruised penis, often following sexual intercourse. Penile fracture is typically accompanied by a snapping or popping sound and immediate detumescence whereas dorsal vein rupture is not.

Question 3. Which of the following is NOT an advantage of surgical exploration of a ruptured testicle?

- A Debridement of devitalised tissue

- B Reduction in the formation of anti-sperm antibodies
- C Improved serum testosterone
- D Reduced scrotal haematoma and thus infection risk
- E Improve the chances of testicular viability

The correct answer is C. Hormonal function will not usually be altered by surgical exploration. Reduction in anti-sperm antibodies is a theoretical benefit that can have an impact on future fertility. Scrotal haematomas can be dramatic, and can subsequently become infected. Large haematomas can compromise testicular viability.

Question 4. Which of the following is NOT a sign of a urethral injury?

- A Blood at the urethral meatus
- B Perineal bruising/haematoma
- C High riding prostate
- D Haematuria
- E Hemodynamic instability

The correct answer is E. Although haemodynamic instability can indicate significant trauma, it does not directly indicate a urethral injury. In a trauma patient with any of the other signs, prior to catheterisation the urethra should be imaged, usually by performing an ascending urethrogram. If the patient is unstable, one gentle attempt may be made by a urologist to catheterise the patient; should this prove difficult, a suprapubic catheter may need to be inserted.

Question 5. Immediately following a T4 spinal cord injury, the bladder is most likely to behave in which of the following ways?

- A Fill at low pressure, reflex emptying once full to capacity, complete emptying
- B Fill at high pressure, overactive detrusor contractions, unable to empty
- C Fill at low pressure, no detrusor contractions, unable to empty
- D Fill at low pressure, continuous urinary leakage, no retention
- E Fill at high pressure, normal complete emptying

The correct answer is C. The patient will be in a state of 'spinal shock'. The patient will have no visceral or somatic reflexes. Over the next few weeks to months these will return. The bladder initially therefore fills, usually at low pressure, but cannot mount a contraction in order to empty. The patient usually requires some form of catheterization

(either intermittent or indwelling) in the initial period following a spinal injury. The behavior of the bladder following the return of reflexes depends on the level of spinal cord injury.

Multiple Choice: Chapter 19 Urological procedures and equipment

Question 1. A silicone catheter can stay in situ for:

- A 1 month
- B 14 days
- C 7 days
- D 3 months
- E 6 months

The correct answer is D.

Question 2. Which type of ultrasound probe would you ideally use to image the testicle?

- A Curved 10–12 MHz
- B Flat 10–12 MHz
- C Curved 3 MHz
- D Flat 3 MHz
- E Straight long 3 MHz

The correct answer is B. The higher the frequency the more detailed the image but the penetration is less. When imaging testes it is important to have a detailed image to identify any abnormalities such as malignancy. The testes are also very superficial which lends them to this. A flat-head probe also allows more detail to be obtained while a round-headed probe gives a wider image field.

Question 3. What does LASER stand for?

- A Light Amplification by Stimulated Electron Radiation
- B Light Amplification by Stimulated Emission Radiation
- C Light Amplification by Stimulated Energy Ray
- D Low Amplification by Slow Energy Radiation
- E Low Amplification by Stimulated Electron Radiation

The correct answer is B